14 August 1981

PLEASE LDX TO:

White House (TELE: 456-2291
ATTN: Mr. James Nix
Please call Mr. Nix, OMB (395-3664) for pickup

FROM: [redacted] 25X1

CONFIDENTIAL

THE DIRECTOR OF CENTRAL INTELLIGENCE

WASHINGTON, D.C. 20505

Deputy Director for National Foreign Assessment

14 August 1981

NOTE FOR: Mr. James A. Nix
Office of Management and Budget

Attached are some "analytical thoughts" of [redacted] (Office of Scientific and Weapons Research, CIA) on the problem(s) you mentioned in your call to me yesterday. Please let me know how you wish me to follow up. 25X1 25X1

[redacted] 25X1

cc: SA/NPI
[redacted] OER 25X1

CONFIDENTIAL

Given a choice, in the 1990s, among Australian-origin enriched uranium, US-origin enriched uranium, and US enrichment of foreign origin uranium, price considerations will probably dictate that a customer for enriched uranium choose the third option. However, nuclear supply decisions are rarely made purely on the basis of price, and the relative costs of the three options listed above will depend on policy and technology decisions which are still well in the future. [redacted] 25X1

US use of "cost recovery" pricing rather than "fair value" pricing for enrichment services makes those services considerably less expensive than those of either Urenco or Eurodif and competitive with those provided by Techsnabexport. A continuation of this policy, and the availability of established facilities and cheap electricity from TVA, seem likely to make US services cheaper than Australian services which will be privately operated with more recent, more expensive capital equipment. A change in US policy to adopt "fair value" pricing would intentionally relinquish at least part of this edge.

The exact magnitude of the price differential between US and Australian services will depend on numerous factors. It will depend on the particular technology the Australians adopt (US, Japanese, or Urenco centrifuge technology of French Chemex technology) and Australian ability to hold costs to the amounts to be projected in the feasibility study to be conducted in the next two years. The differential will also depend on US decisions regarding the gas centrifuge enrichment plant, the technical

success of laser isotope separation, and any number of unforeseen US, Soviet, French, West European, and Japanese policy initiatives. [redacted] 25X1

The cost of the uranium feed also depends on its source. Non-US origin natural uranium tends to be somewhat cheaper than US origin uranium. This is partly because some foreign uranium is cheaper to mine, partly because some countries engage in predatory pricing to enhance exports, and partly because foreign uranium must be priced lower to overcome the additional cost of transporting it to the enricher. The relative cost advantage of foreign uranium over domestic uranium will fluctuate, however, based on supply and demand, price fixing arrangements, and national policies which tie provision of enrichment services to purchase of domestic uranium. [redacted] 25X1

The non-price factors, which seem to accompany all nuclear supply decisions, will probably be as important as the price. Assurance of supply is the biggest such factor. The Arab oil boycott of 1973-4 and oil supply disruptions since 1979 have sensitized countries to the risk of relying too heavily on any one country for their energy needs. Although unilateral US actions in the past have contributed to the notion of the unreliability of the US as a nuclear supplier, it would be unrealistic to assume that any US policy could overcome the developing trend to assure supply by diversifying suppliers. The Japanese, for example, having fought World War II over assurance of supply of raw materials, have an almost fanatical commitment to diversifying their sources of uranium and establishing a domestic fuel cycle of doubtful economics to guarantee their nuclear

energy supply. An Australian enrichment plant would be an attractive alternative to reliance on US or European suppliers for most of the countries of South and East Asia. These countries may be willing to pay a cost differential. Further, if the uranium market tightens, Australia--one of the world's largest uranium suppliers--could condition uranium sales on supply of enrichment services. ☐ 25X1

The other side of the assurance of supply question is the market assurance question for the supplier. One of Australia's considerations in choosing an enrichment technology supplier is the ability of the supplier to guarantee a market for the enriched product. The Japanese are a prime market for Australian enrichment services and probably view that market potential as a key lever in getting Australia to buy Japanese centrifuge technology. The Japanese could conceivably boycott an Australian enrichment plant built with Urenco or US technology. ☐ 25X1

Other non-price factors which frequently affect nuclear supply decisions are the fostering of bilateral relations, the development of a market for other resources, the supplementary provision of desired technology, concenssionary financing, and national prestige. Any or all of these could figure into the choice among the three options considered here. ☐ 25X1